Request to Archive
With The National Centers for Environmental Information
For PATMOS-X HIRS Level-2 Data
Provided by University of Wisconsin

2015-02-02

This information will be used by NCEI to conduct an appraisal and make a decision on the request.

1. Who is the primary point of contact for this request?

Andy Heidinger
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2. Name the organization or group responsible for creating the dataset.

UWI-MAD/SSEC > Space Science and Engineering Center, University of Wisconsin, Madison

3. Provide an overview summarizing the scope of data you want to archive. Describe the outputs, data variables, including their measurement resolution and coverage.

A crucial step in generating gridded monthly mean HIRS CTPs is to use collocated AVHRR Global Area Coverage (GAC) data to determine the presence and/or amount of cloud in each HIRS instantaneous field of view (IFOV) . This is accomplished via the PATMOS-x (Pathfinder Atmospheres Extended) cloud mask algorithm which is a naïve Bayesian method that discriminates between clear and cloudy GAC pixels and reports the fraction of cloud in each HIRS IFOV. This cloud detection data must be generated before executing the CTP algorithm and is used as ancillary input data. The AVHRR cloud mask data set would include the following:

scan_line_number
scan_line_time
asc_des_flag
bad_pixel_mask
latitude
longitude
sensor_zenith_angle
solar_zenith_angle
relative_azimuth_angle
solar_azimuth_angle
glint_mask
surface_type
land_class
snow_class
refl_0_65um_nom
refl_0_86um_nom
refl_1_60um_nom
refl_3_75um_nom

temp_3_75um_nom
temp_11_0um_nom
temp_12_0um_nom
refl_0_65um_nom_stddev_3x3
temp_11_0um_nom_stddev_3x3
cloud_probability
cloud_mask
cloud_type
cloud_phase
cld_press_acha
cld_temp_acha
cld_height_acha
cld_emiss_acha
cld_beta_acha
cld_height_uncer_acha
cld_opd_acha
cld_reff_acha
acha_quality
acha_info
cld_opd_dcomp
cld_reff_dcomp
cld_opd_dcomp_unc
cld_reff_dcomp_unc
dcomp_quality
dcomp_info
insolation_dcomp
insolation_diffuse_dcomp
cloud_albedo_0_65um_nom
cloud_transmission_0_65um_nom
cloud_fraction
cloud_fraction_uncertainty
aot_0_86um_nom
aot_1_6um_nom
aot_qf
surface_temperature_retrieved
refl_0_65um_nom_counts
refl_0_86um_nom_counts
refl_1_60um_nom_counts
temp_11_0um_nom_clear_sky
cloud_water_path

4. What is the time period covered by the dataset? (YYYY-MM-DD, YYYY-MM or YYYY)
From 1983-05-04
Ongoing as continuous updates to the data record

5. Edition or version number(s) of the dataset:
v05r03

6. Approximate date when the dataset was or will be released to the public:
2014-06-30

7. Who are the expected users of the archived data? How will the archived data be used?
Processors of HIRS moisture and cloud data sets

8. Has the dataset undergone user evaluation and/or an independent review process? Did NCEI participate in design reviews?
It is a subset of the AVHRR Cloud Data Set maintained at NCDC

9. Describe the dataset's relationship to other archived datasets, such as earlier versions or related source data. If this is a new version, how does it improve upon the previous version(s)?
Ancillary data for HIRS Cloud and Moisture Data Sets

10. List the input datasets and ancillary information used to produce the data.
AVHRR L1B

11. List web pages and other links that provide information on the data.
AVHRR PATMOS-x provides the HIRS sub-pixel cloud fraction in standard format.

12. List the kinds of documents, metadata and code that are available for archiving. For example, data format specifications, user guides, algorithm documentation, metadata compliant with a standard such as ISO 19115, source code, platform/instrument metadata, data/process flow diagrams, etc.
1. See Andy Heidinger ATBD for AVHRR PATMOS-x

13. Indicate the data file format(s).
1. netCDF-4

14. Are the data files compressed?
netCDF-4/HDF5 compression

15. Provide details on how the files are named and how they are organized (e.g., file_name_pattern_YYYYMM.tar in monthly aggregations).
NOAA/NESDIS AVHRR naming convention with ".level2.nc" appended.

Ex: NSS.GHRR.M2.D08211.S1115.E1257.B0921718.SV.level2.nc

16. Explain how to access sample data files and/or a file listing for previewing. If it is not available now, when will it be available?
Data are staged for rsync pull or FTP push from SSEC computer called Zara

17. What is the total data volume to be submitted?
Historic Data: all historic data or data submitted as a completed collection.
Total Data Volume: 56TB
Number of Data Files: 450000

Continuous Data: data volume rate for a continuous data production.
Total Data Volume Rate: 240GB per Month

Data File Frequency: 14 per Day
Data Production Start:

18. Are later updates, revisions or replacement files anticipated? If so, explain the conditions for submitting these additional data to the archive.
Calibration coefficients for visible channels (1,2 and 3a) are generated and projected for near real-time processing. As new data becomes available and the calibration coefficients are updated it is advisable to replace files most affected (usually most recent 1 or 2 years).

19. Describe the server that will connect to the ingest server at NCEI for submitting the data.
Physical Location: UWI-MAD/SSEC > Space Science and Engineering Center, University of Wisconsin, Madison
System Name: Zara
System Owner: UWI-MAD/SSEC > Space Science and Engineering Center, University of Wisconsin, Madison
Additional Information:

20. What are the possible methods for submitting the data to NCEI? Select all that apply.
1. FTP PUSH
rsync pull

21. Identify how you would like NCEI to distribute the data. Web access support depends on the resources available for the dataset.
1. Unknown

22. Will there be any distribution, usage, or other restrictions that apply to the data in the archive?
No known constraints apply to the data.

23. Discuss the rationale for archiving the dataset and the anticipated benefits. Mention any risks associated with not archiving the dataset at NCEI.
Provides sub-pixel characterization of each HIRS FOV that will be processed for cloud top o(if more than 15% cloudy) or moisture column (if totally clear)

24. Are the data archived at another facility or are there plans to do so? Please explain.
No

25. Is there an existing agreement or requirement driving this request to archive? Have you already contacted someone at NCEI?
No

26. Do you have a data management plan for your data?
No

27. Have funds been allocated to archive the data at NCEI?
No

28. Identify the affiliated research project, its sponsor, and any project/grant ID as applicable.

HIRS Cloud and Moisture CDRs

29. Is there a desired deadline for NCEI to archive and provide access to the data?

Archive by: 2014-12-31

Accessible by:

30. Add any other pertinent information for this request.

None